



STATE OF WASHINGTON
DEPARTMENT OF LABOR AND INDUSTRIES

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Washington State Blood Lead Reporting System Update

SHARP Technical Report 38-5-1997

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The Washington State Blood Lead Reporting System was established by the Washington State Department of Health (DOH) on May 15, 1993. The results of all blood lead (PbB) tests performed on Washington State residents are reported to the DOH Office of Epidemiology. Each month, an average of 450 test results for children (< 15 years old) and over 500 results for adults (≥ 15 years old) are received. DOH notifies local health departments when PbB levels in children are ≥ 10 micrograms per deciliter of blood (µg/dl)-- the unit of measurement for blood lead concentration. Adult results are forwarded to the Safety & Health Assessment & Research for Prevention (SHARP) program of the Department of Labor and Industries.

Concerning Adults

The US Public Health Service set a national goal for the year 2000: "eliminate exposures which result in workers having blood lead concentrations greater than 25 µg/dl of whole blood."

As of December 31, 1996, SHARP had received a cumulative total of 16,964 reports of PbB levels from 12,698 individuals (Table 1). Approximately 5% of the individuals had elevated PbB levels (all results ≥ 25 µg/dl) while about 1.5% of the individuals had PbB levels ≥ 40 µg/dl. PbB results of ≥ 40 µg/dl have been associated with damage to the kidneys and blood-forming systems, increased blood pressure, psychological and nerve function abnormalities, and adverse reproductive health effects for males and females. More than 95% of individuals with PbB levels of ≥ 40 µg/dl were male.

Table 1. Adult blood lead levels--1996 reports and cumulative reports.

Blood Lead	January 1-December 31, 1996 (%)		May 15, 1993-December 31, 1996 (%)	
(µg/dl)	Reports	Individuals ^a	Reports	Individuals ^a
< 25	5918 (94.6)	5278 (96.3)	15544 (91.6)	12079 (95.1)
25-39	228 (3.6)	145 (2.6)	987 (5.8)	440 (3.5)
40-49	72 (1.2)	37 (0.7)	292 (1.7)	113 (0.9)
50-59	28 (0.5)	17 (0.3)	98 (0.6)	42 (0.3)
≥ 60	6 (<0.1)	4 (<0.1)	43 (0.3)	24 (0.2)
TOTAL	6252	5481	16964	12698
Total no. of classified employers ^b	123		322	
Total no. of newly classified employers ^b	91		322	

^aFor individuals with multiple reports, only the highest blood lead level is counted.

^bClassified employers are those for which blood lead testing information is known.

When available, we collect employer and occupation information for individuals with elevated PbB levels in order to better characterize where lead overexposures may be occurring. Most adult blood lead tests are sponsored by employers, in order to assess workplace lead exposures. Blood testing of lead-exposed workers, which is frequently required by workplace health regulations, provides valuable information to guide workplace and medical decisions related to lead. Elevated blood lead levels should trigger reduction of lead exposures.

Industries with elevated PbB levels in workers are shown by standard industrial classification (SIC) code in Table 2. Since many lead-exposed workers are not tested for PbB, the problem is likely much greater than these numbers indicate.

Table 2. Industries associated with two or more elevated PbB levels (≥ 25 $\mu\text{g/dl}$), May 1993-December 1996

INDUSTRY	SIC CODE	Reports 25-39 $\mu\text{g/dl}$	Reports 40-49 $\mu\text{g/dl}$	Reports 50-59 $\mu\text{g/dl}$	Reports ≥ 60 $\mu\text{g/dl}$	Total Reports ≥ 25 $\mu\text{g/dl}$
Metal Mining	10	4	0	0	0	4
Building Construction	15	12	10	5	2	29
Heavy Construction	16	84	15	1	0	100
Construction Special Trade Contractors	17	73	22	6	1	102
Textile Mill Products	22	2	3	1	0	6
Chemical Products	28	92	7	3	0	102
Glass Products	32	172	19	0	1	192
Primary Metal	33	47	18	6	7	78
Fabricated Metal Products	34	5	0	0	0	5
Electric Equipment	36	77	87	31	4	199
Transportation Equipment	37	73	20	3	1	97
Measuring, Analyzing, & Medical Equip	38	6	1	0	0	7
Manufacturing Industries (misc.)	39	3	4	2	2	11
Electric, Gas, & Sanitary Services	49	2	0	0	0	2
Wholesale Trade-Durable Goods	50	59	8	0	3	70
Food Stores	54	2	0	0	0	2
Auto Dealers & Gas Service Stations	55	12	8	4	0	24
Miscellaneous Retail	59	4	3	2	0	9
Business Services	73	3	2	0	0	5
Auto Repair and Services	75	78	20	17	8	123
Miscellaneous Repair Services	76	4	4	0	0	8
Amusement and Recreation Services	79	6	1	0	0	7
Health Services	80	2	0	0	0	2
Educational Services	82	2	0	0	0	2
Engineering Services	87	8	2	0	0	10
Administration of Economic Programs	96	0	3	1	0	4
National Security & International Affairs	97	3	0	0	0	3
Other		26	5	0	1	32
Unknown		126	30	16	13	185
TOTAL		987	292	98	43	1420

The information on individual persons and employers contained within the registry is regarded in the strictest confidence. The PbB results are confidential and protected from public disclosure in any form which would identify the individual. Information on individual employers is used only for SHARP's purpose of identifying industries where lead exposure reduction interventions can be targeted in order to reduce worker overexposure. SHARP does reserve the right to share information on employers with WISHA, the state Occupational Safety and Health (OSHA) plan operated by L&I, as deemed necessary to prevent serious lead overexposure situations. This only occurs when an employer has failed to demonstrate a good faith effort to address an overexposure situation through voluntary efforts.

The registry's goal is to foster activities to prevent lead overexposure and poisoning. SHARP strives to inform and educate workers and employers about the hazards of lead exposure and to provide technical assistance to employers and industries which present risks of lead exposure to workers. For more information on the lead registry and its activities or on ways to prevent lead overexposure, please contact SHARP at (360) 902-5669.